REMARKS

Claims 21-22, 24-26, and 28-29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants Admitted Prior Art (AAPA) in view of Galyas (WO 00/42789). The Examiner's reply in the *Response to Arguments* section of the Final Office Action of 6/29/06 and the Examiner's comments on page 2 of the Advisory Action of 10/18/06 is appreciated. However, the applicants continue to disagree with the present rejections and request reconsideration.

In the *Response to Arguments* section of the present office action, the Examiner asserts that the problem in both the present application and in Galyas is "delay due to traffic type" and the solution in both is queue prioritization. The Examiner further asserts that since the problems are similar enough that one of ordinary skill in the art would recognize the application of Galyas and would not hesitate to use it to solve the problem faced in the admitted prior art. The applicants respectfully disagree with this characterization of the prior art relative to the present application and submit that it oversimplifies or ignores the substantial differences between the prior art and what is claimed.

The applicants submit that Galyas teaches the use of queue prioritization in order to differentiate between delay-sensitive traffic and traffic with less strict delay requirements, such as between speech and non-transparent data. See the quote below of Galyas page 5, lines 5-24. Galyas even teaches a hierarchy of priority levels among speech traffic, such as between interactive speech and non-interactive speech. See the quote below of Galyas page 9, lines 3-10 and of Galyas page 10, line 18 – page 11, line 14. Thus, the applicants submit that Galyas teaches the use of queue prioritization in order to differentiate between types of traffic content that have different delay-sensitivity. In other words, Galyas suggests that a traffic's content-type can determine its queue prioritization.

In contrast, the present application describes queue prioritization that is not dependent upon a traffic's content-type. In other words, the traffic for two calls of the

same type (say both are interactive speech calls with the same level of delay sensitivity, e.g.) may be assigned different queue priorities according to the present application based on how the calls are processed by a transcoder supporting each call. Thus, queue prioritization is based on how the communications apparatus processes each call rather than on the content-type of the call. For example, a first call in which communication signals are either decoded or encoded by a transcoder are assigned a first queue priority while a second call in which communication signals are neither decoded or encoded by the transcoder are assigned a second, and perhaps different, queue priority. The applicants submit that this is neither taught nor suggested by Galyas as cited by the Examiner.

In particular, independent claim 21 as amended recites (emphasis added) "wherein the queue priority is determined at least in part according to **whether the communication signal is a standard call mode or a bypass call mode**, wherein the standard call mode comprises communication signals that are either decoded or encoded by a transcoder and the bypass call mode comprises communication signals that are neither encoded nor decoded by the transcoder." Independent claim 26 recites (emphasis added) "**assigning a lower queue value** to the communication signal **when** the communication signal is **a bypass mode call** than when the communication signal is a standard mode call; wherein the bypass mode call is a mobile-to-mobile call and the standard mode call is a mobile-to-landline or a landline-to-mobile."

In the rejection of claims 21 and 26, the Examiner cites various portions of Galyas including page 2, lines 17+, page 5 lines 12+, page 5 lines 15+, page 10 lines 21+, and page 9 lines 4+. Galyas page 2, lines 12-28 reads (emphasis added):

> In one exemplary embodiment, information transmitted in time slots (TSs) from mobile stations (MSs) to a base transceiver station (BTS) are received and decoded in transceivers (TRXs). The TRXs for-mat the information into IP packets and send them to an internal router. The internal router receives the packets and stores them in memory. **Each packet includes a priority level indication that is analyzed at the router. Packets with a lower priority level (e.g., corresponding to non-interactive speech) are delayed while packets with a higher priority level (e.g., corresponding to interactive speech) are forwarded without such delay**.
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> **Interactive speech includes, for example, verbal conversations between two people in real time. Examples of non-interactive speech include voice mail, computer-**

generated menus, e-mail to/from speech, etc. In one particular embodiment, the priority level indication analysis and forwarding in accordance with the present invention is used in conjunction with tandem free operation (TFO) of speech codecs in a GSM system. Specifically, the system identification block of TFO request and acknowledgment messages may be populated with the priority level indication. The TFO functionality of the network may therefore detect the "system" identifier to be a priority level indication and handle the packets accordingly.

Galyas page 5, lines 5-24 reads (emphasis added):

The BSS (of which the BTS 110 may form all or a part) may be altered to accommodate packet switched transmission. Implementing packet switched transmission within the BSS increases the flexibility and the transmission efficiency when using statistical multiplexing. IP may be utilized, and priority bits in an IP header may be used to introduce QoS in an IP network. When introducing packet- based transmission into a GSM BSS, the delay requirements of GSM should met. Currently, **speech information is the most delay sensitive traffic**, and **the present invention therefore advantageously places speech into the highest delay priority class** in one exemplary embodiment. **Other services/information, which do not demand as strict delay requirements (e.g., non-transparent data), are placed into lower priority classes** that have variable delay by default.

The improvement with the usage of different delay priorities, however, will be limited because the transmitted traffic is currently dominated by speech and is likely to continue to be so for a long time. The improvement derived from statistical multiplexing is then limited to the statistics of the speech sources within the network alone, and no additional improvement from different priority levels is achieved (apart from the signaling, which only needs a very low part of the bandwidth in any event). The use of statistical multiplexing of speech is enabled by the implementation of a Voice Activity Detection/Discontinuous Transmission (VAD/DTX) mechanism, which is already implemented in GSM systems.

Galyas page 9, lines 3-10 reads (emphasis added):

According to the present invention, these different types of calls are identified. After identification, **the different types may be assigned differing levels of priority** and subsequently queued so that they may be forwarded at different times. For example, **calls identified as containing non-interactive speech are placed in a lower delay priority class**. Consequently, the available links (e.g., the Abis interface 230) may be better utilized. This increased utilization may be capitalized in a number of ways. For example, it may result in needing a lower bandwidth on the links for a given speech delay or in providing a lower speech delay for a given bandwidth.

Galyas page 10, line 18 – page 11, line 14 reads (emphasis added):

> In an alternative embodiment, the number of memories (e.g., memory queues) may be increased by providing a separate memory queue for each of the TRXs/lines 210(x)/215(x) for receiving the packets 400. In another alternative embodiment, the number of separate memory queues may be increased by providing **multiple memory queues designated for one or more particular priority levels (e.g., one for interactive speech and another one for non-interactive speech).** In yet another alternative embodiment, the number of separate memory queues may be further increased by providing multiple memory queues designated for one or more particular priority levels at each of the TRXs/lines 210(x)/215(x).
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> A priority analyzer 415 retrieves via a data bus 420 the priority level 402 (either alone or with other portions of a packet 400) from one of the memory locations 410(x) in the memory 410. Continuing with the example provided above with reference to FIGURE 3B, the priority analyzer 415 analyzes the priority level 402 retrieved from the memory location 410(l) and determines that it is classified as non- interactive speech (e.g., a burst received on TSO). Thus, the corresponding packet 400 is delayed. The priority analyzer 415 next retrieves via the data bus 420 the priority level 402 (either alone or with other portions of a packet 400) from the memory location 410(2) in the memory 410. The priority analyzer 415 analyzes the priority level 402 retrieved from the memory location 410(2) and determines that it is classified as interactive speech (e.g., a burst received on TS1 in the example described above with reference to FIGURE 3B). Thus, the corresponding packet 400 is appropriate for transmission. The priority analyzer 415 informs a packet transmitter 425 via a control signal/line 430 that the packet 400 in the memory location 410(2) is to be transmitted. The packet transmitter 425 retrieves the packet 400 from the memory location 410(2) via the data bus 420 and subsequently forwards the packet 400 onto the Abis interface 230. The priority analyzer continues to analyze the priority levels 402 of the packets 400 received in the memory 410 until, for example, all the packets 400 have been analyzed, additional packets 400 are received, etc.

However, the applicants submit that Galyas fails to teach or suggest determining a queue priority according to whether the communication signal is a standard call mode or a bypass call mode (i.e., whether the communication signal is decoded or encoded or neither encoded nor decoded). Galyas clearly provides different delay priority classification for interactive speech verses non-interactive speech. In the *Response to Arguments* section of the present office action, the Examiner asserts that Galyas is not restricted to interactive / non-interactive speech, referring to Galyas' use of "LOWER-PRIORITY." However, the applicants submit that this misses the point. The question is on what basis does Galyas teach or suggest that priority (higher or lower priority) should be determined. As cited by the Examiner, Galyas teaches that higher or lower priority is

determined by whether the traffic is speech or not (see the quotation from Galyas page 5 above) and/or whether the traffic is interactive speech verses non-interactive speech (see the quotation from Galyas page 9 above).

Furthermore, Galyas appears to teach away from determining a queue priority according to whether the communication signal is a standard call mode or a bypass call mode. For example, the present application describes voice/speech signaling being assigned a different queue priority based on whether the voice/speech signaling is associated with a standard call mode or a bypass call mode. Thus, interactive speech (a verbal conversation between two people in real time, according to Galyas page 2 above) may be assigned a different queue priority based on whether it is associated with a standard call mode or a bypass call mode. In contrast, Galyas teaches that such interactive speech would be given a higher priority (see the quotation from Galyas page 2 above) without any mention or suggestion to consider an associated standard or bypass call mode.

In the Advisory Action of 10/18/06, the Examiner refers to Galyas pp 12 and 13 as addressing the applicants' concerns regarding encoding/non-encoding and decoding/non-decoding. However, independent claim 21 as amended recites (emphasis added) "wherein **the queue priority is determined** at least in part according to **whether the communication signal is a standard call mode or a bypass call mode**, wherein the standard call mode comprises communication signals that are either decoded or encoded by a transcoder and the bypass call mode comprises communication signals that are neither encoded nor decoded by the transcoder." Independent claim 26 recites (emphasis added) "**assigning a lower queue value** to the communication signal **when** the communication signal is **a bypass mode call** than when the communication signal is a standard mode call; wherein the bypass mode call is a mobile-to-mobile call and the standard mode call is a mobile-to-landline or a landline-to-mobile."

The applicants submit that in Galyas' discussion of tandem free operation, queue priority is not described as being based on whether the communication signal is a standard mode call or a bypass mode call. Instead, priority level in Galyas is indicated by the contents of the message itself, e.g., message block 665 and priority level

indication block 685. See Galyas page 12 lines 12-22, page 13 lines 29-31, and page 14 line 16 – page 15 line 7. Thus, the applicants submit that Galyas appears to teach away from determining a queue priority according to whether the communication signal is a standard call mode or a bypass call mode and instead teaches the use of a priority field or block within each message to indicate priority.

Since none of the references cited, either independently or in combination, teach all of the limitations of independent claims 21 or 26, or therefore, all the limitations of their respective dependent claims, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown. Furthermore, no amendment made was related to the statutory requirements of patentability unless expressly stated herein; and no amendment made was for the purpose of narrowing the scope of any claim. No remaining grounds for rejection or objection being given, the claims in their present form are asserted to be patentable over the prior art of record and in condition for allowance. Therefore, allowance and issuance of this case is earnestly solicited.

The Examiner is invited to contact the undersigned, if such communication would advance the prosecution of the present application. Lastly, please charge any additional fees (including extension of time fees) or credit overpayment to Deposit Account No. **502117 -- Motorola, Inc**.

Respectfully submitted,
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